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EXAMINER

NEGRON, ISMAEL

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HELMUT BENTIVOGLIO and VOLKER ZIPF

Appeal 2008-3708
Application 10/607,923
Technology Center 2600

Decided: January 22, 2009

Before MAHSHID D. SAADAT, MARC S. HOFF,
and KARL D. EASTHOM, *Administrative Patent Judges*.

EASTHOM, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner's Final Rejection of claims 11-22. (App. Br. 5).¹ We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Appellants invented, according to their disclosure, an automatic sensor switch on an automotive interior mirror module. The sensor switch initiates a touchless switching action based on the approach of a nonmetallic switching object (i.e., a hand). (Spec., Abstract; ¶ 0006).

Claim 11, illustrative of the invention, follows:

11. A switch arrangement for an automotive interior mirror module comprising:

a mirror housing of an automotive interior mirror module;
at least one sensor disposed in said mirror housing; and
an evaluation electronics unit disposed in said mirror housing and operably associated with said at least one sensor, wherein said evaluation electronics unit initiates at least one switching process based on the approach of a non metallic object toward said at least one sensor.

The Examiner relies on the following prior art references to show unpatentability:

Desmond	US 5,820,245	Oct. 13, 1998
Schulz	US 5,880,538	Mar. 9, 1999

¹ The Examiner's Answer (mailed October 31, 2006) ("Ans."), and Appellants' Brief (filed October 10, 2006) ("App. Br.") and Reply Brief (filed October 20, 2006) ("Reply Br."), detail the respective positions of the parties.

The Examiner rejected claims 11-22 under 35 U.S.C. § 103(a) based upon the teachings of Desmond and Schulz.

ISSUES

Appellants and the Examiner raise the following issues:

1) Did Appellants demonstrate that the Examiner erred in finding that it would have been obvious to replace Desmond's mechanical switch with Schulz's capacitive switch, thereby constituting an evaluation electronics unit that initiates a switching process based upon the approach of a non-metallic object, as set forth in claim 11?

2) Did Appellants demonstrate that the Examiner erred in finding that Schulz teaches the turn-on and turn-off signals recited in claim 12?

3). Did Appellants demonstrate that the Examiner erred in finding that Schulz's sensor includes the sensitivity adjustment recited in claim 20?

4) Did Appellants demonstrate that the Examiner erred in finding that Desmond and Schulz collectively teach a sensor located in the lower corner region of a mirror housing facing the driver, as set forth in claim 22?

FINDINGS OF FACT (FF)

1. Schulz discloses a proximity switch "which may be used as an actuating device for a variety of control applications, such as windshield wipers and door locks." (Schulz, Abstract).

2. Schulz states; "One of ordinary skill in the art, however, should appreciate that the invention is not limited to this application." (Schulz, col. 2, ll. 51-53).

3. Schulz states “Present-day miniaturization of electronic circuits also makes it possible to provide the capacitive proximity switch entirely, i.e., optionally except for the operating electrode, within an object.” (Schulz, col. 1, ll. 49-52).

4. Schulz discloses

As seen by the foregoing disclosure, the *capacitive proximity switch circuit provides an effective switch for universal control systems*. When used in a locking control system, the capacitive proximity switch circuit is activated, *thereby locking or unlocking a door*, when a user’s hand approaches the operation electrode of the circuit. One important feature of the invention is that the switching state of the circuit is unchanged when the user removes her hand from the vicinity of the operating electrode.

(Col. 4, ll. 50-58) (emphasis added).

5. Schulz’s capacitive switch circuit comprises an RC circuit that measures the presence of a person’s capacitive effect on the switch. Different resistor values, including those in resistor divider and feedback circuits, and capacitive values, effect not only the lower and upper cutoff frequencies of the circuit frequency response, but also the compared voltage potentials at the inputs of a differential amplifier and operational amplifier. (Schulz; Fig. 1; *see generally* col. 3, l. 39 to col. 4, l. 39).

6. Desmond discloses a mirror housing having light bulbs therein controlled by mechanical switches 27 and 29. The switches 27 and 29 are located on lower corner regions of the mirror case 11, with switch 27 facing the driver. (Figs. 9, 10, col. 6, ll. 45-54).

7. Several different corner regions are depicted in the mirror case 11. (See Fig. 7). Recesses 48, 49, and 50, having corners, accommodate

switches 27, 28, and 29. The switches are also adjacent the lower corner regions of recesses 46, 47. A corner of recess 46, and hence, a corner of the mirror case 11, is immediately adjacent the recess 48 for switch 27. (Desmond, Figs. 4, 7, 10; col. 4, ll. 53-58).

8. Appellants state that a sensitivity setting can be “influenced by means such as a manually operated potentiometer or adjusting wheel, a sensor that is sensitive to ambient light level, or a scanner or sensor that detects physical size and/or seat position.” (Spec. ¶ 0011).

9. Appellants disclose a capacitive proximity sensor having a presettable threshold value, and a frequency determining capacitor in an RC signal generator. (Spec. ¶ 0015).

10. Appellants’ switch interprets a first approach of a user’s hand towards the switch as a turn-on command and a second similar approach as a turn-off command. (Spec. ¶¶ 0015, 0016).

PRINCIPLES OF LAW

“On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.” *In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Leapfrog Enter., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007) (quoting *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1739 (2007)).

“[W]hen a patent ‘simply arranges old elements with each performing the same function it had been known to perform’ and yields no more than one would expect from such an arrangement, the combination is obvious.” *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. at 1740 (quoting *Sakraida v. Ag. Pro., Inc.*, 96 S. Ct. 1532 (1976)). In “. . . difficult . . . cases . . . the claimed subject matter may involve more than the . . . mere application of a known technique to a piece of prior art ready for the improvement.” *Id.*

When the claimed and prior art products are identical or substantially identical, the burden shifts to applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of the claimed product. *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977); *In re King*, 801 F.2d 1324, 1327 (Fed. Cir. 1986); *In re Ludke*, 441 F.2d 660, 664 (CCPA 1971); *In re Swinehart*, 439 F.2d 210, 212-13 (CCPA 1971).

ANALYSIS

Issue 1

Appellants’ arguments reduce to the assertion that the combination does not teach replacing a mechanical switch with an automatic switch (App. Br. 8-13). Such arguments ignore the principle enunciated in *Leapfrog*, that “[a]pplying modern electronics to older mechanical devices has been commonplace in recent years.” *Leapfrog*, 485 F.3d at 1161. Moreover, ample motivation exists for such a simple replacement, contrary to Appellants’ related arguments.

For example, Schulz explicitly teaches that one of skilled artisans would have recognized the advantages of placing an effective miniaturized automatic switch entirely within an object (i.e., a housing) for *universal*

control of electronics using a switch (FF 1-4). Desmond discloses such a housing, containing such a light control circuit and having a mechanical switch (FF 6). Therefore, Schulz's and Desmond's teachings directly contradict the unsupported and conclusory Zipf affidavit and Appellants' related assertions. (*See* App. Br. 11-12; Evidence Appendix).

The Zipf affidavit fails to acknowledge or address all of Schulz's teachings, including those specifically relied upon by the Examiner (*see, e.g.,* Ans. 4, *citing* Schulz col. 4, ll. 54-59; *see* FF 4, *quoting* the column 4 passage; *see also* Ans. 7, *citing* Schulz col. 1, ll. 6-10, teaching "a variety of universal control applications"). In any event, the Zipf affidavit does not outweigh the Examiner's factual findings with respect to Schulz and Desmond. As the Examiner found (Ans. 9), skill artisans would have recognized that such an automatic switch alleviates the necessity to actually touch a mechanical switch, which would have been advantageous while driving, especially at night. Such common sense teachings need not be explicit in the references, contrary to Appellants' arguments (Reply Br. 6, 7). *See KSR*, 127 S. Ct. at 1741-42 (cautioning against "overemphasis on . . . the explicit content of issued patents" and stating that "[c]ommon sense teaches . . . that familiar items may have obvious uses beyond their primary purposes . . .").

In other words, replacing Desmond's light switch with Schulz's modern, automatic, universal control switch, would have involved no "more than . . . the mere application of a known technique to a piece of prior art ready for the improvement." *KSR*, 127 S. Ct. at 1740. Accordingly, Appellants have not demonstrated the Examiner erred with respect to claim 1.

Issue 2

Appellants dispute (App. Br. 13-14) the Examiner's finding (Ans. 9-10) that Schulz's user, making first and second approaches towards the capacitive proximity switch, and thereby respectively turning the switch on and off (FF 4), meets claim 12. Appellants assert (Reply Br. 9, 12) that Schulz's user would have to move her hand away to constitute the second approach. The assertion is not commensurate in scope with the claim. The claim merely requires a second approach. Moving toward the switch a second time constitutes a second approach (FF 4). Moreover, this interpretation is consistent with Appellants' disclosure (FF 10). Accordingly, Appellants have not demonstrated the Examiner erred with respect to claim 12.

Issue 3

Claim 20 recites: "The switching device of claim 11 wherein said at least one sensor is provided with a sensitivity adjustment that is used to set the length of the desired approach distance." Appellants dispute (Reply Br. 13) the Examiner's finding (Ans. 10-11) that Schulz teaches that the circuit can be adjusted by changing the resistor values to meet the adjustment element recited in claim 20. However, Appellants disclose similarly changing a resistance value (i.e., a potentiometer), and also disclose a capacitive switch. (FF 8, 9).

In this situation, under *King*, *Ludke*, *Best*, and *Swinehart*, the burden has shifted to Appellants to explain why a similar change of resistance in Schulz's similar RC capacitive switch circuit (FF 5) would not produce the claimed sensitivity adjustment. Appellants have failed to meet this burden.

Moreover, Schulz's circuit senses changes in capacitance. (FF 4, 5). It follows that changing one of the capacitors necessarily changes the sensitivity. Alternatively, changing a resistor in one of the resistor divider circuits changes the voltage input at one of the comparator amplifiers.

Finally, contrary to Appellants' arguments (Reply Br. 13), Schulz need not explicitly disclose a sensitivity adjustment. Claim 20 is a product claim and does not require an adjustment, only the ability for an adjustment, initially or otherwise. In any case, Schulz's circuit implicitly was adjusted when it was made, and/or has the ability to be further adjusted.

Issue 4

Claim 22 requires "at least one sensor . . . located in the lower corner region of said housing facing a driver." As the Examiner found (Ans. 11-12), Desmond's mechanical switches 27 and 29 are located in a lower corner region of Desmond's mirror housing, with switch 27 facing a driver. (FF 6, 7). Appellants argue that Desmond's switches "are in the central bottom portion of the mirror case 11." (Reply Br. 14). Such an argument does not refute the Examiner's finding that the lower corner regions extend towards the center. Appellants do not define where such a corner "region" ends. Further, Desmond discloses different corner regions in the housing. One such corner region; i.e., recess 46, constitutes a corner region of the housing 11, and lays immediately adjacent the switch 27. (FF 7).

Appellants' conclusion (Reply Br. 14), asserting no motivation to provide Schulz's sensor in place of Desmond's mechanical switch, was addressed above with respect to claim 11. Accordingly, Appellants have not demonstrated error in the Examiner's findings (Ans. 11-12) with respect to claim 22.

CONCLUSION

Appellants did not demonstrate that the Examiner erred in finding that it would have been obvious to replace Desmond's mechanical switch with Schulz's capacitive switch, thereby constituting an evaluation electronics unit that initiates a switching process based upon the approach of a non-metallic object, as set forth in claim 11. Appellants did not demonstrate that the Examiner erred in finding that Schulz teaches the turn-on and turn-off signals of claim 12. Appellants did not demonstrate that the Examiner erred in finding that Schulz's sensor includes the sensitivity adjustment of claim 20. Finally, Appellants did not demonstrate that the Examiner erred in finding that Desmond and Schulz collectively teach a sensor located in the lower corner region of a mirror housing facing the driver, as set forth in claim 22. Accordingly, we sustain the Examiner's rejection of claims 11, 12, 20 and 22, and the remaining claims on appeal which are not separately argued.

DECISION

We affirm the Examiner's decision rejecting claims 11-22.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv)(2006).

AFFIRMED

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